

## **REMARKS**

### **I. Status of the Claims and the Rejections**

Applicants thank Examiner O'Reilly for conducting a telephonic interview with applicants' counsel on July 26, 2010. In that interview, the claim amendments presented above were discussed, and the Examiner agreed that these amendments overcome at least the current rejections. The following remarks clarify the current status of the claims, and applicants' patentability assertions.

Claims 13 and 14 were rejected for allegedly failing to comply with the written description requirement under 35 U.S.C. § 112, first paragraph. Claims 13 and 14 have been canceled in this response, thereby rendering the Section 112, first paragraph rejections moot.

Substantively, claims 1-3 were rejected for alleged lack of novelty under 35 U.S.C. § 102 based on Otterson U.S. Patent No. 2,181,199 ("Otterson"). Claims 4-9 and 11-14 were rejected for alleged obviousness under 35 U.S.C. § 103 based on a combination of Otterson and Scheffler U.S. Patent No. 6,306,032 ("Scheffler"). Applicants respectfully traverse the rejections.

However, applicants have amended independent claims 1 and 6 to further clarify the subject matter regarded as patentable. Applicants have also: (a) amended claims 4, 5 and 11; (b) canceled claims 13 and 14; and (c) added claims 15-19. In view of these amendments and the following remarks, applicants respectfully request reconsideration and allowance.

### **II. Claims 1-3 are Novel**

#### **A. The Claims**

Independent claim 1 recites a method for cooling a passenger cabin of an aircraft. The method includes "introducing a first stream of cooling air at a first temperature into a conditioned air space in the passenger cabin at first sites remote from passengers; and

introducing a second stream of cooling air at a second temperature into the conditioned air space in the passenger cabin at second sites closer to passengers than the first sites." The method also recites that the first temperature is lower than the second temperature, and both the first and second temperatures are lower than an ambient temperature of the passenger cabin. Claims 2 and 3 depend from independent claim 1 and recite additional features, such as the second sites being located closer to a floor of the passenger cabin than the first sites, as recited in claim 2.

B. The Deficiencies of the Cited Prior Art

Otterson is directed to an air supply system for supplying adequate levels of oxygen in an aircraft. As shown in Figures 1 and 2, Otterson includes an aircraft cabin 12 having a warm air supply conduit 25 along the floor 14 and a pair of cool air supply conduits 63 along the ceiling. The warm air supply conduit only supplies air that heats the cabin, while the cool air supply conduits only supply air that cools the cabin. By contrast, claim 1 now clearly requires that both streams of cooling air delivered to first and second sites in a conditioned air space of a cabin are at a lower temperature than the ambient temperature of the cabin, therefore cooling the cabin. The system of Otterson does not deliver two cooling air streams to the cabin, and thus is deficient with respect to claim 1.

For at least these reasons, claim 1 is allowable over Otterson. Claims 2 and 3 are also allowable over Otterson for at least the same reasons. Furthermore, claims 2 and 3 recite unique combinations of features also not disclosed in Otterson. For these reasons, and because Examiner O'Reilly acknowledged that these claims, as amended, are novel over Otterson, applicants respectfully request that this rejection of claims 1-3 be withdrawn.

### III. Claims 4-9, 11 and 12 are Not Obvious

#### A. The Claims

Independent claim 6 recites a system for air conditioning a passenger cabin of an aircraft. The system includes a first line branching that delivers a first air mixture at a first temperature to a first region of the passenger cabin remote from passengers. The system also includes a second line branching that delivers a second air mixture at a second temperature to a second region of the passenger cabin closer to passengers than the first region. The system further includes first and second valves respectively coupled to the first and second line branching, the first and second valves controlling the first and second temperatures by modifying the amount of hot bleed air added to the respective first and second air mixtures. When cooling is required, the first temperature and the second temperature are each lower than an ambient temperature of the passenger cabin. When heating is required, the first and second temperatures are each higher than the ambient cabin temperature. Claims 7-9 and 12 depend from independent claim 6 and recite additional features, including connecting the first line branching to a feed line for recirculated air, fresh air, and hot engine bleed air, as recited in claim 8.

Claims 4, 5 and 11 depend from independent claim 1 and recite additional features of the method. For example, claim 5 recites that the first and second streams of cooling air include recirculated air as well as fresh air and engine bleed air.

#### B. The Deficiencies of the Cited Prior Art

As discussed previously, Otterson is directed to an air supply system in an aircraft that only provides one warming air supply and one cooling air supply at different positions in an aircraft cabin. Independent claim 6 now requires that both air mixtures delivered to first and second regions in a cabin are at a lower temperature than the ambient temperature of the cabin when cooling is required, or alternatively, that both air mixtures are at a higher temperature than

the ambient temperature of the cabin when heating is required. Otterson does not disclose delivering two cooling air streams or delivering two heating air streams to an aircraft cabin.

With respect to claim 6, Scheffler is cited solely for the teaching of having valves in an air supply system for controlling temperature by modifying an amount of hot bleed air added to an air supply. As shown in Figures 1 and 2, each region of the aircraft in Scheffler (i.e., the stairwell 5 and sleeping cabins 17, 18) is supplied with only one stream of conditioned air. Consequently, Scheffler also does not disclose delivering two cooling air streams or delivering two heating air streams to an aircraft cabin. Scheffler fails to overcome the deficiencies of Otterson with respect to independent claim 6 (or independent claim 1, for the reasons explained above).

Therefore, independent claim 6 is allowable over Otterson and Scheffler. Dependent claims 4, 5, 7-9, 11 and 12 depend from one of independent claims 1 and 6 and recite unique combinations of features also not disclosed by the proposed combination of Otterson and Scheffler. For these reasons, and because Examiner O'Reilly acknowledged that these claims, as amended, overcome the prior Section 103 rejection, applicants respectfully request that the rejection of claims 4-9, 11 and 12 be withdrawn.

Additionally, dependent claims 5, 8 and 9 each require that one or more of the streams/mixtures of air being delivered into the cabin include fresh air, recirculated air, and engine bleed air. In the rejection of these claims, the Office Action relies on Scheffler for the teaching of such a mixture and states that it would have been obvious to reconfigure the Otterson air supply system to deliver fresh air, recirculated air, and engine bleed air. Office Action, page 6. However, Otterson is primarily concerned with supplying air with an adequate amount of oxygen to the cabin. To this end, Otterson teaches that air in the air supply system is only recirculated when the fresh air inlet valve is closed because the oxygen content of ambient air

surrounding the aircraft is too low for comfortable respiration. When the fresh air inlet valve is open, the recirculation system is not used such that oxygen supplied in the recirculation system is not wasted. Thus, one of ordinary skill in the art would not have modified the Otterson air supply system to operate with both fresh air and recirculated air because such a modification undermines the primary purpose of Otterson, which is to ensure proper oxygen concentrations in an aircraft cabin for the entire duration of a flight. For at least this additional reason, dependent claims 5, 8 and 9 are allowable over Otterson and Scheffler and the rejections of these claims should be withdrawn.

#### IV. New Claims 15-19 are Allowable

New independent claim 15 is similar to independent claim 1, and recites a method for heating a passenger cabin of an aircraft. The method includes "introducing a first stream of heating air at a first temperature into a conditioned air space in the passenger cabin at first sites remote from passengers; and introducing a second stream of heating air at a second temperature into the conditioned air space in the passenger cabin at second sites closer to passengers than the first sites." The method also recites that the first temperature is higher than the second temperature, and both the first and second temperatures are higher than an ambient temperature of the passenger cabin. Claims 16-19 depend from independent claim 15 and recite additional features, such as the second sites being located closer to a floor of the passenger cabin than the first sites, as recited in claim 16.

As discussed above with respect to independent claim 6, Otterson and Scheffler fail to disclose supplying two heating air streams to an aircraft cabin. Thus, independent claim 15 is allowable over the currently-cited art. Claims 16-19 are also allowable over Otterson and Scheffler for at least the same reasons, and because each of claims 16-19 recites a unique

combination of features not disclosed in Otterson and Scheffler, either expressly or impliedly.

Applicants respectfully request that claims 15-19 be allowed without delay.

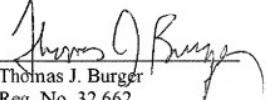
V. Conclusion

Based on the amendments to the claims and these remarks, applicants respectfully assert that all present claims are in condition for allowance, and respectfully request an allowance without further delay.

It is believed that no fee is due for this filing. If any fee is deemed due, consider this as an authorization to charge Deposit Account 23-3000 therefore.

Respectfully submitted,

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Date



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